



(12) **United States Patent**
Torok et al.

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(54) **CHARGING STATION WITH PASSIVE ALIGNMENT MECHANISM**

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 26 days.

This patent is subject to a terminal disclaimer.

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(57) **ABSTRACT**

A charging station for an electric vehicle includes a passive alignment mechanism that includes a longitudinal translation stage that allows motion in a longitudinal direction, a charging plug connected to the passive alignment mechanism, and a releasable connector. The releasable connector resists motion of the longitudinal translation stage in a connected position when a magnitude of an external force applied in the longitudinal direction is below a threshold. The releasable connector moves from the connected position to a released position to allow motion of the longitudinal translation stage when the magnitude of the external force applied in the longitudinal direction is above the threshold.

20 Claims, 10 Drawing Sheets

